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Vol. XLV, March 1948, No. 6

Cornell Countryman



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Careers at GENERAL ELECTRIC

PHYSICIST . . . CHEMIST . . . ENGINEER

for each, General Electric has assignments to his liking

General Electric is not one business, but an organization of many businesses, ranging from the building of giant turbines at Schenectady to the molding of plastics in Pittsfield. The 165,000 people of General Electric work

in 93 plants in 16 states. Graduates of American colleges and universities are finding that General Electric offers opportunities to all degrees of specialists, all sorts of enthusiasms, all kinds of careers.

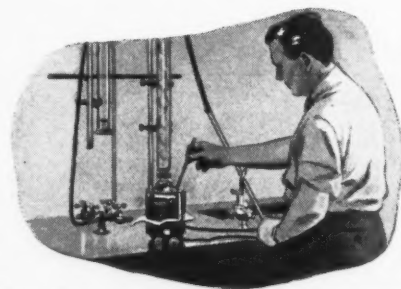
ATOMIC PHYSICIST



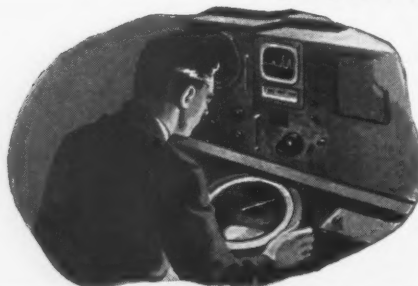
As the result of its research in nucleonics, General Electric was asked by the Government in 1946 to take over operation of the giant Hanford Works, one of the major units of the Manhattan Project. With this development, and with the construction of both a new Atomic Power Laboratory and a new Research Laboratory at Schenectady, opportunities in all phases of nuclear research have increased enormously. Herbert C. Pollock (left), one of the first scientists to isolate U-235, works now with such electron accelerators as the Betatron and Synchrotron.

CHEMIST

General Electric is the largest molder of finished plastics parts in the world. It has also played a large part in the development of silicones, new chemical compounds from which a whole new industry is springing. Developments like these have meant unprecedented opportunities for chemists and chemical engineers at General Electric. Dr. J. J. Pyle, graduate in chemistry at British Columbia and McGill, became director of the G-E Plastics Laboratories at the age of 29.



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For good reason, General Electric Electronics Park has been called the "Greatest Electronics Center in the World." Its 155 acres look like a campus. Its laboratories, shops and production lines are the most modern of their kind. It's a Mecca for men whose attentions perk up at the sight of a circuit diagram—men like Dick Longfellow, who has worked his way up through television and high-frequency assignments and is today section engineer in charge of ground radar equipment.

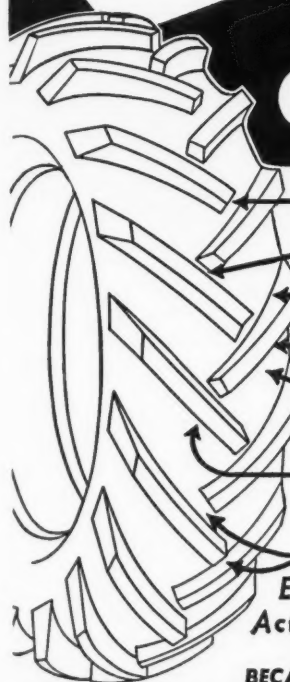
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GENERAL  ELECTRIC

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MILKSHED FOR MILLIONS



The Dairymen's League offers Security to the Farmers who Produce Milk for the Millions of Consumers in the New York Milkshed.

WHAT does the future hold? On one side you hear a depression predicted. On the other, a continued spiral of inflation. Opponents of the Marshall plan say it will wreck our economy. Advocates of European relief say we will fail unless Europe is brought to her feet. A few want more government control. Others say we must have less control. When it is all said and done, the future is hazy. Nobody knows exactly what is ahead.

Security in the League

The 27,000 members of the Dairymen's League know that they are in the best position to maintain their markets and prices, whatever comes. They know that in the League their future is secure.

This security has been built by League members themselves. More than a quarter of a century ago they started building an organization that will see them through the days ahead. Today, League members have the most modern marketing facilities available. They have an organization that is experienced in meeting marketing problems. They have a strong cooperative that has taken the lead in fighting farmers battles. All of these things make the Dairymen's League spell *security* for its 27,000 members.

JOIN THE LEAGUE The Dairymen's League gets its strength from three things . . . strong membership, adequate facilities and a dependable sales organization. These three assets guarantee League members a market for all of their milk every day of the year and a voice in marketing the crop that furnishes half the agricultural income here in the Northeast. If you are not already a member of the Dairymen's League, you are cordially invited to join today.

DAIRYMEN'S LEAGUE COOPERATIVE ASSOCIATION



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OUR COVER . . . Gordon Rapp '49 caught Jean Moore Carson giving a preliminary sizing-up to her chicks before starting them on the long road to the dinner table. Jean, a former ag student, is married to Jim Carson, a graduate in the poultry department.

The Cornell Countryman

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Up to Us

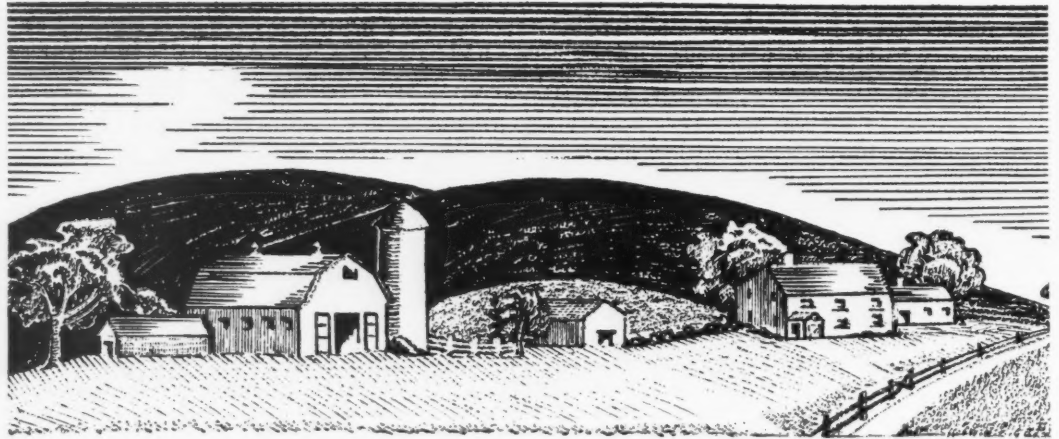
NSA. Let's see, that's another of the alphabet agencies our bureaucratic society has brought forth. What is it though? It's the National Student Association, the only organization designed specifically to represent our country's students in the affairs of the nation and the world.

What does it do? At present it is chiefly concerned with providing services for students throughout the land. A file of student government constitutions is being compiled and will be made available to groups wishing to institute or revamp campus self-government. Plans are being made to have exchanges of exhibits between colleges. (For instance, Alfred University has an excellent ceramics department, and Cornell has a superior College of Home Economics. NSA's plan is to arrange swaps to make the spread of knowledge even greater.) Information on the pending state university is being collected and prepared for distribution. Gathering facts on discrimination and student welfare, making available information concerning student unions, publishing a book on the opportunities for study and work abroad—all these, and more, are among NSA's activities.

And in addition, NSA represents you, every Cornellian, and every other college student in the United States.

Each state is divided into regions according to the distribution of student population. New York State, because of its many colleges and universities, has five regions. There is an active group on each campus. Its work is done by committees made of non-partisan, representative persons. These persons are the ones who represent us, the ones whose word will be taken as our voice.

If our NSA is to be the type of organization we want, one that will truly speak for each of us, we must do our part to support it. The association exists, but its effectiveness, its worth, is up to us.



You're Invited

This is your invitation to attend the 37th Annual Farm and Home Week at Cornell University, April 6-9—the first since 1943.

More than 500 events—exhibits, demonstrations, motion pictures, speeches—are scheduled for New York's farmers and homemakers. The program is especially designed for one-day visitors with many topics being repeated daily. Practically every subject from freezing foods and feeding baby to building a new home and barn will be covered.

This Farm and Home Week belongs to you. It is your opportunity to visit your Colleges of Agriculture and Home Economics and find out what's new in agriculture and homemaking.



Young at Ninety

and still pioneering

Liberty Hyde Bailey, dean of American horticulturists, all-knowing god to every garden club, revered saint to informed modern farmers, and elder sage to natural scientists the world over, has gone plant-collecting again—this time to the Caribbean.

If it involved pushing through jungles and navigating rivers in a native boat, it was all in the pursuit of knowledge. And for that, by the Bailey philosophy, a man is never too old. Indeed, it is the way to stay young.

Dr. Bailey won't return in time to celebrate his 90th birthday on March 15. A delayed celebration, however, is being planned by the university for April 29 to honor him.

Mention Liberty Hyde Bailey's name to the average person interested in plants or flowers, and it is like speaking of Noah Webster to a dictionary user. Bailey is the basic authority, the man who compiled the standard encyclopedia of plants and countless other definitive works. Indeed, he has been the Webster of his field for so long that he has been just a name to the average gardener for years, and most people looking up pansies or cabbages in his works have no more thought of him as a living person than they would of Webster.

That has always been all right with Dr. Bailey. A scholarly man, too intent on the world around him to have time or taste for self-glorification, he has never enjoyed personal publicity. Why should people be interested? Hadn't he been doing the same thing for years? The fact that he is still doing it, at ninety, seems to him beside the point.

And perhaps it is, in a way. For Liberty Hyde Bailey, nearing ninety, packing a tooth brush and a razor, a few changes of clothes and practically nothing else except his trusty—and heavy—old camera, and heading for the Indies to find unidentified palms, is all of a piece with Liberty Hyde Bailey, a child

in the primeval wilderness of northern Michigan, counting the maple trees on his daily walk from an isolated farm to a one-room school. "Observation," he told some children in a nature-study class a little while ago, "is the beginning of wisdom." At ninety, Bailey has long been one of the wisest men in the world, but he could no more resist the urge to observe nature than he could at nine.

Born in a region where Indians still outnumbered the few white men, and where there was practically nothing but nature all around

every morning?' I didn't know. But I did the next day. Then she asked me, 'How high are their tops from the ground?' I didn't know. But I did the next day. And that kept going for a blessed year. Observation of all plants and animals became a part of my life. Now it means more than ever to me. If we are to be inhabitants of this planet, we should be sensitive to it."

"The holy earth," Dr. Bailey called it in a philosophical little book by that title which he wrote thirty years ago on a ship in the South seas, after just such a plant-



Dean Liberty Hyde Bailey guides the plow in the first furrow as he begins the excavation for Roberts Hall, the cornerstone of which was laid in 1905.

him, Bailey found the world "full of wonders." "Eighty-one years ago," he told that nature study class, "I saw everything. I was sure that I knew everything in the woods. But when I asked my teacher one day if she would give me a course in nature study, she said, 'Liberty, I'm very sorry for you, going through this beautiful world with your eyes shut.' I disputed her, but she asked me, 'How many maple trees are there along the way that you walk to school

hunting expedition as this recent one. "We did not make the earth," he wrote. "We have received it and its bounties. If it is beyond us, so it is divine. We have inescapable responsibilities. It is our privilege so to comprehend the use of the earth as to develop spiritual stature."

"You see," one of his long-time colleagues said recently, "Bailey is deeply religious—not in the orthodox sense, perhaps, but according

(Continued on page 12)

America's No. 1 Sap

by Fred Trump '49

Drip! Drip! Drip! Clear golden-brown maple syrup comes cascading from the pitcher, and hot pancakes topped with butter are immersed in maple syrup, a woodland product of delicious sweetness and distinctive flavor. What a treat for the eyes, the nose and the mouth! This might be a scene in any New York farm home.

Second only to Vermont in production, New York State is noted for its maple syrup and sugar. Making maple syrup calls for work, but is as exciting, as healthful, and as sweetly rewarding as any job on the farm.

It is safe to say that most people in this state have never had genuine high-quality maple syrup. They have had substitutes to be sure, but not the real thing—a clear, light brown fluid with a distinctive flavor due to the presence of certain organic compounds. When I was in the Army down South I had maple sugar sent to me. None of the fellows down there had ever had anything like it, although many of them came from the Northeast. For the folks at home, maple syrup was the principal source of sugar during the war.

Our Sugar Bush

The home "sugar bush" contains more than a hundred large trees surrounding the sugar house in a secluded vale on a hilltop overlooking Lake Erie. Harvest time here usually comes in March, beginning sometimes in February and extending into April. Actually the trees can be tapped whenever the sap runs in the trees, that is, anytime during the winter when alternate freezing and thawing occurs between night and day.

In our sugar bush, we start up the fire in the evaporator sometime during mid-winter and thoroughly

clean all the sap buckets, covers, and spouts as well as the evaporating pans. When the first morning thaw (hence the first sap run) comes, we tap our trees with a tapping bit, driving in the metal spouts and hanging the buckets on the spout hooks. Going through the woods, we are followed by an ever-increasing plunk-plunk of sap running into the empty buckets.

We fill the evaporator pans with water, and start up the fire. When all this is done, it may be time to gather the sap. We empty each bucket of sap into gathering pails and carry the sap to the gathering tank mounted on a horse-drawn sled. When the sap is gathered, the sled is driven to the upper side of the storage tank and the sap is piped into it. From there it is piped down to the evaporator in the sugar house.

The evaporator pans are deeply corrugated on the bottom to present a greater surface to the fire, and are divided into compartments connected by valves. As water is drawn from each compartment, sap immediately replaces it. Now it is a matter of time and of keeping the fire going until the sap approaches

the proper density. Meanwhile it is a good idea to be out cutting or gathering wood nearby, provided the fire is kept at full capacity. But as the sap becomes syrup, it needs careful watching.

The Syrup Comes

We use a target thermometer, as do most producers, to test the density of the syrup by its boiling point. This thermometer has an adjustable scale, so that first the boiling point of water on that particular day and at the elevation of the sugar house is determined. The boiling point of saturated syrup is seven degrees above the boiling point of water, no matter what the latter may be. It is very important that the finished product be exactly 11 pounds per gallon in density. Even out in the woods where the sap drips into the buckets, where axes resound through the woods, and where steam pours out of the ventilator in the roof of the sugar house, precision is necessary. If the syrup is less than a saturated solution, it may ferment and sour. If the syrup is supersaturated it will crystallize out into large crystals at the bottom.

(Continued on page 17)



The sap flows from the gathering tank to the storage tank and down to the sugar house. This setup is very similar to the one described above.

Fred Trump '49 received his discharge from the Army just in time for the maple syrup season two years ago.

The Chicken Coop

Gordon Rapp '49 Reports the Latest from the Poultry World

Of Vitamins and Chicks

Popeye was right! The recent discovery of an important vitamin contained in spinach leaves—folic acid—has finally settled the old argument.

The actual amounts of this vitamin in ordinary feeds and foods is being determined by Charles W. Carlson, a graduate student in the Department of Poultry Husbandry, who is working on his master's degree in animal nutrition. Charles, a native of Greeley, Colorado, came to Cornell in March, 1946, after graduating from Colorado State A & M in 1942 and subsequently whiling away three and one half years in the army.

Vitamin Research

Folic acid was first discovered in spinach leaves—hence named after foliage—in Texas in 1941, but it can now be prepared chemically. It is necessary for growth and the prevention of certain anemias, particularly pernicious anemia, not only in chicks but also in humans. The general aim of the research conducted by the Poultry Department has been to determine the requirements of this vitamin for humans, after it was found that chicks need one half part per million units of food intake.

In developing an assay method for determining the folic acid present in feeds, Mr. Carlson uses two methods. The first of these is to feed two groups of chicks a diet complete in all respects except folic acid, supplemented in one instance with the foodstuff being assayed, and in the other with the pure vitamin. This diet consists of starch, purified milk protein, all known minerals, pure vitamins, and cellulose to supply bulk. The second method makes use of similar assays with bacteria, using media deficient in the vitamin.

In this way Charles determined

that leafy substances, liver, some yeasts, and soybeans are all good sources of folic acid.

Other Research

Another phase of the research conducted in the Department has been directed toward isolation and identification of an animal protein factor necessary for normal growth, found in such feeds as liver meal and fish meal. Gerald F. Combs, Herbert T. Peeler (two graduate students) and others are trying to learn more about it.

Much has still to be discovered in this vast field of nutrition. New techniques and factors are being continually unearthed, and research with chicks is proving that poultry is valuable not only when smothered in gravy, but also under the experimenter's scrutinizing eye.

Egg Washer

A dream of poultrymen is coming true, and a new era in egg marketing is approaching. Designed to take the drudgery out of cleaning eggs, a novel egg-washing machine will soon appear on the market.

The machine, invented by Prof. Forrest B. Wright of the agricultural engineering department at Cornell, consists essentially of a series of abrasive-coated cloth discs under which the eggs are passed by a number of moving fingers. Hot water is supplied to the discs through a perforated pipe, and their constant rotation causes the eggs to turn so that both the ends and sides are cleaned.

This device was the result of four years of experiment to meet the rigid specifications set by poultrymen. It handles all shapes and sizes of eggs without readjustment. Even thin-shelled and blind-checked eggs can be washed without breakage.

Water is supplied at a temperature of 165°F, but the eggs are dried so rapidly that their temperature, after they have spent the

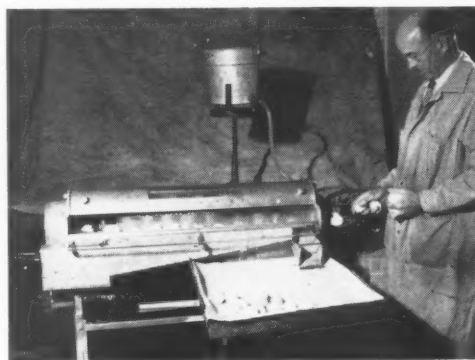
necessary 22 seconds in the section of the machine devoted to washing, is only 2° higher than when they entered it.

Eggs are thoroughly cleaned by the machine without lowering their keeping quality or damaging their exterior or interior quality; nor is the "bloom" removed from the shell. Tests at the bacteriology and poultry departments at the University indicate that the eggs washed in the new machine at a temperature of at least 165° will keep in storage distinctly better than dirty eggs cleaned by any other method tested.

Patented by the Cornell University Research Foundation, the egg-washing machine is now being manufactured by two companies.

Prof. Wright states that the device will enable two persons to wash, dry, and pack five cases of eggs per hour. When it becomes generally available, the machine will probably fall within the price range of poultrymen with as few as 500 birds. It is believed that this egg-washing machine will not only materially reduce the two to four evenings per week spent by poultrymen and their wives cleaning eggs, but that it will also cut down on the cost of producing eggs for market, and perhaps result in a better product.

Prof. F. B. Wright of the Ag Engineering Department is shown with the egg-washing machine he invented.



Cornell and Cirencester

by Gordon D. Rapp '49

Even Charles Dickens, the great English novelist, had something to say about Cornell! Many new slants on our alma mater during its embryonic stages were unearthed from an old booklet* published in England.

Cornell's Counterpart

This publication had reprinted an article entitled "Farm and College", written by Dickens in 1868, which treated the development of agriculture in England and particularly the growth of the College at Cirencester. The novelist told of the difficulties in getting this college started and the tribulations encountered in



financing the project. It was the first of its kind in the world ever to be founded on the principle that an institution be provided in which "the rising generation of farmers may receive instruction at a moderate expense in those sciences, a knowledge of which is essential to successful cultivation, and that a farm form a part of such an institution."

To alleviate the lack of funds, and the expenses incurred by the students, it was decided to make the students work for their education by laboring on the farm, and at the same time get acquainted with the details of farm work. (No doubt the present farm practice requirements are a vestige of this idea.) Unfortunately, though, this plan failed miserably since, according to Dickens, "The young student whose actual wants are paid for by his father's cheque is the most unproductive of all known sorts of farm servant. He turns work into play,

smokes under hedges, and even when he does go through a certain quantity of work, is not to be relied upon for doing it at the right time, or thoroughly."

Cirencester, A Model

Dickens then went on to tell of the same difficulties encountered at Cornell University, but under different and far more hopeful conditions. "The plan of the Cornell Institution, which has enrolled our countryman, Mr. Goldwin Smith, among its professors, is partly based upon the good later results obtained at Cirencester. About six years ago Mr. Ezra Cornell of Ithaca, N. Y., who made a large fortune by telegraphy, visited the college at Cirencester with Colonel Johnstone. He afterwards made his offer to the New York Government of more than a hundred thousand pounds, in addition to the considerable grant of land from Congress to a state that would provide agricultural teaching, on condition that the whole should go to the founding of a single institution, not as a grant to be divided among several districts. The result is the Cornell University in the State of New York, one department of which is planned upon the model of Cirencester, and forms the only good agricultural college in the United States."

Mr. Cornell was told of the failure of trying to use students as field labor, but he nevertheless set out to use this system. He ruled that farmwork was not actually required of any student, but was open to all. This arrangement was possible due to the large endowment which enabled "the poorest father to send an industrious son to this new institution." In fact, students were so eager to go to Cornell, that in the first session some youths entered three months before classes began, to earn two dollars a day through haying and harvest, towards their winter expenses.

John Barleycorn

Charles Dickens also described life

at Cirencester, and, remarking about meals there, said that they were plentiful as well as pleasant with their brew of college beer. Dickens predicted that this was one feature Cornell University would not copy, since beer in any place of education in the United States was considered quite shocking, and consequently frowned upon. He believed that "the man might be less ready to 'liquor up' if the boy had formed wholesome acquaintance with John Barleycorn."

The English author praised agricultural colleges wherever they may be. He believed that farming could not pay unless backed by scientific training in the occupation which he considered the oldest, most necessary, and one of the worthiest a man can follow. Dickens then again reminds us that "that part of the holding of a farmer or landowner which pays best for cultivation is the small estate within the ring-fence of his skull. Let him begin with the right tillage of his brains, and it shall be well with his grains, roots, herbage and forage, sheep and cattle; they shall thrive and he shall thrive."

*Professor Richard Bradfield, Head of the Department of Agronomy at Cornell, visited several agricultural experiment stations in Britain last year. He was presented with the gazette, published by the students of the Royal Agricultural College at Cirencester, while on his tour.

THE GOOD DOCTOR

A farmer, delivering eggs at the home of a physician, came upon the good doctor taking a screw-driver and a hammer from a drawer in the kitchen.

"What are you going to do with those tools, Doc, operate on somebody?" the farmer asked.

"No," replied the doctor, "I'm going to fix the doorknob. When my patients come in here they're so weak they can hardly open the door, but when they go out they feel so healthy and strong that they yank the doorknob off."

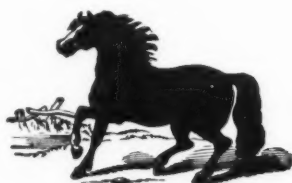
CLUB NEWS

YOUNG COOPERATORS

The Cornell Young Cooperators elected officers at their February meeting. Alice Tarbell was named president; Ralph Taylor, secretary-treasurer; and Wib Pope, reporter and publicity director.

The Young Co-op movement is sponsored by the Dairymen's League, New York's largest milk producer's cooperative. The Cornell group plans to study the workings of farm cooperatives in general, giving special attention to the Dairymen's League and G.L.F. in New York State.

Guest speaker of the evening was Harold McClenathan, division representative of the League from Elmira. His topic was "The Dairymen's League's Place in New York State Milk Production." He briefly outlined the history of his co-op, its development in the early twenties, its rapid growth, and its part in stabilizing milk prices through the marketing order and the Rogers-Allen law. Mr. McClenathan believes that the farm co-op is an economic essential and pointed out that members and non-members alike have benefited from their long range programs.



ROUND-UP CLUB

The Round-Up Club will sponsor a Student Fitting and Showmanship Contest April 9 during Farm and Home Week. John Dewey is general manager of the show and Bud Stanton is assistant manager. Doug Murray will supervise the fitting of the dairy cattle; Owen Jones, beef cattle; Stewart Fish, sheep; Abe Relyea, swine; and Fred Dean, horses. Drawings for the animals to show will be held as soon as the sign-ups are complete.

The Round-Up Club will serve

meals in the Judging Pavilion and in Wing Hall during Farm and Home Week.



HOME-EC CLUB

A luncheon will be given on March 16 in honor of Mrs. Margaret Culken Banning who will be the lecturer in the Van Rensselaer-Rose Series. Mrs. Banning's topic will be "Personal Relations in the Modern World."

HO-NUN-DE-KAH

On February 8 a short orientation course for incoming freshmen was presented, at which several questions on clubs and activities were cleared up.

An attempt will be made to establish an award for an outstanding professor each year, judged on the way he presents his material, the interest he arouses in his course, and similar standards.

4-H CLUB

The 4-H Club met February 11 for its largest meeting of the year, with 77 people attending. Plans were made for a round and square dance on March 6 and a sleigh ride, the date of which is to be announced later.

The CARE committee made its report and a collection of \$14.50 was made at the meeting. The club's advisor, Mrs. Heinzelman, spoke briefly concerning Prof. Albert Hoefer's work in organizing 4-H clubs in Germany. Two movies were shown depicting boys' and girls' club work in Cuba and Puerto Rico.

Ag-tivities

Prof. E. I. Robertson of the Poultry Department, resigned March 1 to become director of research for the Eshelman Feed Company in Lancaster, Pa.

Dr. Cyril W. Terry, who has been a research associate in agricultural engineering, working on the hay research project for the past two years, has been appointed Professor of Agricultural Engineering.

Richard Glor, Dudley Briggs, and Joe Papurca, members of the Cornell Poultry Club, won first and second prize in an egg contest sponsored by Michigan State College.

AGR elected a new chapter manager, Luther Wm. Johnson '50.

AZ elected Ned Bandler '49 as Sergeant-at-Arms, and Dave Nolan '49 was chosen Censor following the retirement of Ivan Bigalow.

The Sears Scholarship Club held a square dance on February 20 in Warren Seminar Room.

Vivian Hoffman, Home Ec '48, is engaged to Jerry Grey, a grad student in the M.E. School.

Cora Betty Rich, Home Ec '49, a native of Canton, N.Y., is engaged to Al Sheldon, Ag '50, from Adams Center, N.Y.

KERMIS

With all eyes turned toward Farm and Home Week, who are the Kermis members to deviate from the norm? In fact, they are going the rest of us one better, busying themselves with rehearsals for their Week's production *April Fools* which will be presented April 6 at 8:15 p.m. in the Home Ec Auditorium. In case you won't have time to catch it then, there will be a preview performance March 25 at 8:15 p.m. in Goldwin Smith B.

FLORICULTURE CLUB

Gardenias were tossed aside during a February winter sports party which included skating on Beebe and tobogganing on the library slope. The club also had a buffet supper in Plant Science Seminar, followed by slides of Canada and of orchids growing in the Philippines.

Introducing . . .



Rapp '49

STEVE COOPER

"I eat eggs every morning and chicken every Sunday. Next to owning my own poultry farm I'd like to see a white Leghorn hen replace the eagle on the national emblem." That was the reply George Stephen Cooper II gave when asked why he is majoring in Poultry Husbandry.

George, or Steve as he is better known, comes from Cooperstown, N.Y. Steve started his college career at Eastern Illinois State Teachers' College way back in 1939. In 1941 he entered the Army to serve for one year, but it was nearly five years before he could get out. During this time he served in France and Germany, received the Purple Heart, Distinguished Service Cross and was finally discharged as a Captain. He served as a company commander in the Infantry.

"Coop" came to Cornell in the Fall of 1945 while still on terminal leave and at once entered into campus activities. He pledged Alpha Zeta in the Spring of '46, played regularly on its football and baseball teams, and is now social chairman.

Steve is a member of the Cornell Poultry Club. He has been a finalist in the Rice Debate Stage during all of his three years at Cornell. In 1946-47 he became an associate editor of the Countryman, treasurer of Ag-Domecon Council, and commodore of the Cornell Corinthian Yacht Club. He also served on the Freshman Orientation Committee.

W.W.



PAT KERWIN

"If I had known what the weather was like I might never have come to Cornell," laughed tall, fair-haired Patricia Jane Kerwin.

Pat, a native of West Chester, Pennsylvania, arrived at Cornell in the fall of '44 and (perhaps determined to show herself equal to any New Yorker) zoomed into class and campus activities. She was selected Freshman Class Song Leader, and proved as popular as she was talented by being elected to the Freshman Class Council, House of Representatives, and W.A.A. She also joined "Cornell for Victory."

Pat did not suffer from any sophomore slump, but again found herself in a whirl of activities in the fall of '45. She was selected as the V.P. at Hillcrest; she was again elected to the House of Representatives, and added the Panhellenic Council to her list.

Pat's classmates recognized her capabilities and elected her Junior Class President. She was also elected secretary to the Student Council and was a member of the Panhellenic Council, W.S.G.A. Activities Committee and the Junior Blazer Committee.

A Textiles and Clothing major, Pat is interested in some phase of merchandising. She has certainly shown outstanding executive ability at Cornell, and despite her slight unhappiness about the weather has made her four years successful, constructive, and fun!

E.M.



CHUCK HOAGLAND

Aurora, New York has contributed more than its Wells girls to Cornell, for Chuck Hoagland, '48, is among its outstanding exports.

Born on a Holstein dairy farm, Chuck's chief 4-H activities were with dairy cattle, which he showed at the state fair many times. His one venture outside the realms of the worthy bovine (an essay on fire prevention) earned him a trip to the 1941 Club Congress in Chicago.

The proximity of a "darned good ag school" and his interest in 4-H made farm-reared Hoagland's choice of Cornell ag a natural.

Chuck's activities make an impressive list: a member of Cayuga Lodge since he entered Cornell in '44; Lodge president in '46; house manager in '47; Men's Glee Club; Westminster Foundation; election to Ho-Nun-de-Kah in his junior year; a seat on Ag-Domecon Council and chairman of its Student-Faculty committee.

In his spare time Chuck reads—"too much, even a textbook when I'm hard up!", bowls (about 160), and plays golf.

A real farmer, Chuck loves hunting. The thought of venison on the hoof a few feet, or a half-mile, ahead thrills him. Wherever they are, he must be ready for he has the remnants (mounted horns and a freezer full of meat) to recall the eight-point buck he got this fall.

Chuck plans to add to his summer experiences as Assistant 4-H Agent in Cayuga County by getting a permanent job in the extension service after graduation.

W.D.

Omicron Nu

Home-Ec Honorary

by Eleanor Marchigiani '50



Ward '59

EILEEN PECK

Eileen Peck, whom you may know as "Peckie" or "Oh, she's the president of Cascadilla," came to Cornell because it never occurred to her to go any place else. However, she says now that if she hadn't come to Cornell, she would have been a chem major at the University of Buffalo. She likes it here as evidenced by the fact that she is enrolled in not one, but two colleges of the University—Home Economics and Nutrition.

Peckie has had three years of W.S.G.A. experience, one as a V.P., one as a cottage president, and this year as a dormitory president. Westminster has claimed her services for four years and this year she is chairman of the worship committee. Her election to Omicron Nu proved that scholarship has not been neglected.

She feels that summer experience is nearly as important as the actual school studies. Last summer she won the Danforth Fellowship which included two weeks in St. Louis and two weeks at Camp Minnawana in Michigan. The summer before that she worked in a community house in Detroit. She has also done hospital work and before that spent every summer on her grandfather's farm because she loves farm life.

As for the future, she plans to take her ADA internship and return for her advanced work here at Cornell. She is especially interested in the clinical side of nutrition.

A.E.D.

You have probably all heard of Omicron Nu, but do you know what it really is? It is the national Home Economics honorary society whose purpose is to promote scholarship, leadership, research, and the furtherance of the world-wide movement of home economics.

Omicron Nu was founded in 1912 at Michigan State College, and in the 35 years since has grown to include 11,000 members in 34 chapters throughout the country. Nu chapter at Cornell was formed in 1919. This year there are sixteen under-graduates and 42 graduate and faculty members.

Some of the nationally prominent honorary members of Omicron Nu, well known to every student of Home Economics, are Martha Van Rensselaer, Lillian Gilbreath, Mary S. Rose, and Dr. Hazel Steibling.

Among the activities which the honorary society sponsored on the upper campus was its annual Research Open House, held at the beginning of the year. Betty Alden, Charlotte Smith and Shirley Haas, all '48, were in charge of the event.

Major research problems carried on in three divisions in the College of Home Economics were discussed by Miss Frances Johnston, Mrs. Lucille Williamson and Miss Jean Failing.

Miss Johnston told of an experiment she conducted last spring in analyzing the iron content in the diet of five co-eds.

Mrs. Williamson, Associate Professor in the Department of Economics of the Household, perhaps influenced by use of Ithaca's hard water, worked with various water softeners and synthetic detergents in an effort to combat soap waste, bathtub rings, and gray laundry. Her goal was to devise a method whereby the homemaker can decide how much of a particular softener is needed to soften the water she uses. The varying contents of active

ingredients in the different commercial softeners poses somewhat of a problem. A rather interesting psychological effect of the sudsless synthetic detergents is the homemaker's complaint that "the water gets dirty faster." It may or may not be important for her to realize that the snowy white suds of the soap, billowing inches above the water, hide more than the clothes or the dishes.

Miss Jean Failing explained the third experiment. The counselors in the College of Home Economics are conducting a four year study in an effort to help future students in their vocational choices. Tests have been used to determine dexterities, abilities and interests; they are not, however, well suited to professions for home economists. The counselors are striving to reach some objective measure to apply to girls who are interested in home economics. Miss Failing stated that satisfactory job adjustment depends mainly on three factors: first, that one's values can be satisfied; second, that one's interests can be used; and thirdly on the utilization of abilities and required information at a level that is satisfactory. An attempt is being made to determine the stability of values since interest tests will be of no use in long range planning unless values are stable.

Omicron Nu's "Research Open House" is an interesting way of offering valuable information on new developments in Home Economics to students. It is an enjoyable combination of party and education that is thoroughly pleasant and entertaining.

TURF CONFERENCE

On March 18-19 New York's first turf conference will be held here to initiate research and education for better turf in the state for the needs of cemeteries, parks, athletic fields, and other landscaping projects.

Young at Ninety

(Continued from page 5)

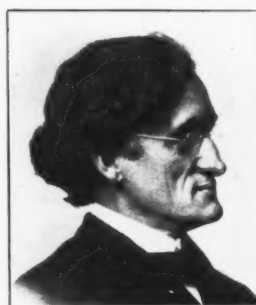
to his own lights. These journeys of his are his own kind of religious pilgrimages. He goes after facts—dry facts, perhaps, to the average layman, but facts which need to be known for fuller understanding of nature. He has just finished a monograph on blackberries and related brambles, for instance, on which he has been working for ten years. He says he has enough work to do on palms to keep him busy until he is ninety-six. But if you have known Bailey as long as some of us have, all this doesn't seem strange. It is the sort of person he is, and will continue to be as long as his mind and body keep going—and in his case, at least, it seems to be a formula for staying young, both mentally and physically.

Here at Cornell, where Dr. Bailey was the second dean of the College of Agriculture, and where four more deans have taken office since he "retired" in 1913, they tell of the joy with which he defied the classicists, in the early days, who thought it beneath the dignity of a university to study apple trees and onions and cows. Old-timers still remember the scandalized clucking of professors of Greek and Latin at the sight of Dr. Bailey, in old clothes, dragging a huge tree limb across the quadrangle to his laboratory. At Michigan State College, where he had been a professor before coming to Cornell, he had founded the first horticultural laboratory in any American college, and at Cornell, as Dean of the College of Agriculture, sponsored many other departures from previous academic conceptions, in his single-minded quest for more knowledge of the ways of nature. He organized, for instance, the first department of dairy industry in any college, telling his agricultural faculty and students, "We have studied the fleas and other parasites that infest our domestic animals before we have studied the animals themselves. If it is worthwhile to study live bacteria and live insects, it is equally worthwhile to study live cows."

That sounds tame enough today, but it was revolutionary doctrine in 1908. Over at Harvard a fellow-

scientist was working on a fat, two-volume work on the fungi on the joints of certain beetles, but he had dropped further study of another fungus when he discovered that it had an economic value to crops. Botanists snobbishly disregarded any plants that were cultivated and grown commercially. Bailey, with his encyclopedic mind, was interested in the wild species, as part of the whole picture, but he was just as interested in the cultivated varieties; and, more than any other one man, he made the study of these scientifically respectable.

We average gardeners, squirting our roses or our tomato plants with spray guns, may find the job something of a bore, but we know that it is the way to get healthy plants. How do we happen to know? Well, over in the Bordeaux region of France, early in the century, somebody had the bright idea of spraying grapevines with copper to keep the youngsters from raiding them. Surprisingly, whatever the effect on the hungry youngsters, it proved to reduce the mildew from which the vines had long suffered. After a little experimentation, a standard spray mixture of copper and lime was worked out—Bordeaux mixture.



R. H. Bailey

That was the beginning, but over here one of the young enthusiasts whom Bailey had brought to Cornell thought he saw many other possibilities in the use of sprays, and asked the dean if he could undertake some research. It was just the sort of thing that the average academician of the day could be

expected to veto promptly as commercial rather than scientific. But not Bailey. Instead, he pitched in and helped find out just what spraying would do. Most of our modern knowledge of spraying stems from that early work.

Indeed, it can almost be said that most of our modern knowledge of the science of growing things stems from Bailey's work, directly or indirectly. The pattern of the modern agricultural college very largely took shape under his regime at Cornell, and as a result of his wide-ranging interest in all of nature's ramifications. One day, for instance, a young instructor wanted some funds to study plant diseases, and suggested to the dean that a department of plant pathology be started.

"I never heard of a professor of plant pathology," said Bailey.

"Neither did I," the instructor admitted.

"Do you think you can handle it?" the dean asked.

"I can," said the instructor.

"All right," said the dean, "then you're a professor of plant pathology. Now go to work."

As dean, Bailey not only generated and developed knowledge, but laid foundations on which our modern methods of spreading it have been built. He took experts out to various parts of the state to show farmers what they had found out in the laboratories and field projects. Today every agricultural county in the United States has a county agent, charged with keeping farmers up to date on scientific developments. He headed President Theodore Roosevelt's Country Life Commission, and wrote a report which is still so current a chart for national agricultural development that the University of North Carolina brought out a new book-length edition for post war guidance. He wrote textbooks and lectured and found time to talk the New York legislature into the acts and appropriations under which the agricultural college plant at Cornell grew from a \$60,000 to a \$1,000,000 institution, and the faculty and student body multiplied tenfold.

Then, at fifty-five, he resigned. He had always planned, he said to devote the first twenty-five years

(Continued on page 16)

Soil Must Be Productive or We Can't Prosper

International Harvester has long subscribed to the principle that if there is to be a "tomorrow" for both agriculture and industry, soil conservation practices must be carried out today.

To promote this modern farming, the company last fall held the fourth and fifth of a nation-wide series of In-Service Training Courses on farm machinery for Soil Conservation Service personnel. They were staged in Region Five, Lincoln, Nebr., and Region One, Hershey, Pa.

Thousands of soil conservationists, agronomists, county agents, farmers and farm equipment dealers attended these meetings to watch machines fight "land on the move." The accompanying illustrations show how problems of terrace-building, gully control and retaining of top soils, among others, were mastered.

These men, supported by International Harvester and the IH Dealer in your home town, form an army that is waging a great peace-time battle: the conservation of the land, our greatest heritage. We encourage everyone who daily lives and works with American farmers to assist in the program of soil and water conservation.

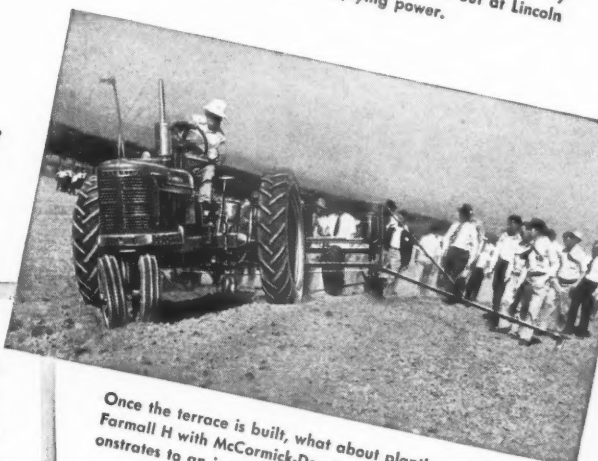
If the farmer is to prosper—and with him, the rest of the nation—*soil must be made and kept productive!*



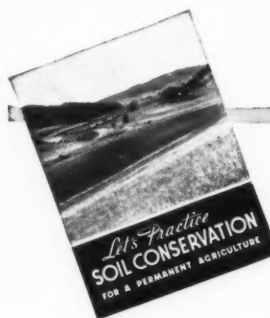
Two Farmall Diesel Tractors team up at Lincoln on a gully-filling job. The one at left uses a McCormick-Deering Power Loader; the other is equipped with a Servis Bulldozer.



Terrace-building and creation of drainage ditches can be done in a hurry with a Servis Whirlwind Terracer. This project was carried out at Lincoln with a McCormick-Deering WD-9 Tractor supplying power.



Once the terrace is built, what about planting on its side? This Farmall H with McCormick-Deering Beet and Bean Planter demonstrates to an interested group at Hershey just how it's done.



Want to know more about soil conservation? Then write for this FREE booklet titled "Let's Practice Soil Conservation." Address Consumer Relations Dept., International Harvester Company, 180 N. Michigan Avenue, Chicago 1, Illinois.

Former Student Notes

1948

Terje Askvig has returned to Norway to farm.

Dick Keough is working with GLF in the farm service store in Churchville, N.Y.

Ted Fritzinger is operating his own landscape service in Allentown, Pa.

Werner Kaplan is attending graduate school at New York University.

John Kidd is with Bernath Nursery, Poughkeepsie, N. Y.

Anna Klena is employed by the Cornell Veterinary College as a laboratory technician.

Harold Sweet is Assistant County Agent in Genesee County.

Donald Holmes is manager of a farm in Halifax, Mass.

Domenico Costarella is a sales trainee with Sears, Roebuck and Company in New York City.

Jinny Rogers is combining her dairy husbandry with her skiing interests at Ski Hearth Farm, Franconia, N. H.

Bill Copeland is doing laboratory work for a paper company in Fort Edward, N. Y.

Herbert Dechert is going into training for sugar production.

Malcolm H. MacDonald became assistant agricultural agent in Erie County. Mr. and Mrs. MacDonald have one child.

Beverly Shepard Agard, a native of Trumansburg, has a seven months-old girl, Nancy Anne.

Ivan Bigalow, member of AZ, is now District Engineer for Cornell.

Richard Haby, AZ, is employed by G.L.F.

1947

Joan Weisberg is engaged to Joseph R. Schulman, a graduate student at the University of Pennsylvania.

1946

June Norton was married January 31 to John Barber. June is in personnel work at the Allen Wales Adding Machine Corp. in Ithaca.

Wes Trainor will soon be associated in the undertaking business with his parents, Mr. and Mrs. Clarence W. Trainor, at Boonville and West Leyden.



Joan Weisberg

Elaine Darby is the new Assistant Home Demonstration Agent in Dutchess County.

Donald F. Sullivan, now studying at the School of Foreign Service, Georgetown University, was one of six new members appointed by Milton Eisenhower who represented the U.S. National Commission for UNESCO at the semi-annual conference of the Department of State in Washington, February 17 and 18. Mr. Sullivan comes from Potsdam, N.Y., and in 1944 was a national winner of the Junior Vegetable Grower's Association in the 4-H Club, and received the 4-H's Moses Trophy and Scholarship.

1945

Jean Herr was married to John O. Gehrett last year. She is supervisor of the Home Ec. Dept. Nursery School at Juniata College, Huntingdon, Pa.

Wally Veeder is working with International Harvester in Buffalo.

1944

Elizabeth Skinner (Mrs. Arthur W. Lazcano) was discharged from the Navy October 10, 1947. Their address is 3850 Ingraham Drive, Crown Point, San Diego, California, where her husband is still with the Navy.

Ed Fitchett, who was here a year ago taking post-graduate work, was recently married and is now living at Poughkeepsie, where he is working with his father and brother in the Fitchett Bros. Lakeview Dairy.

1943

David R. Lanigan became Assistant Agricultural Agent in Clinton County. He had spent three years in the army, and was previously associated with the American Cyanamid Company.

Ralph Seefeldt is a student at the Nyack Missionary Training Institute, Nyack, N. Y.

John Birkland, who was married last summer, is soon to become County Agent in Erie County.

1942

Phyllis Stevenson is Assistant to the Dean at Arizona State College, Tempe, Arizona.

1941

Vera Marie Duffey (Mrs. William Mahoney) is manager of the High School cafeteria in Gloucester, Mass.

Bob Harvey and his wife, Jane, and their two boys, Bill and Bob, live in Westboro, Mass., where he is in the livestock business with his father.

Bob Guzewich is Assistant County Agent in Saratoga County. He was married last summer.

William Elkins operates a farm at Mumford, N. Y. He is married and has two daughters.

1932

James E. Rose, supervisor of G.L.F. Farm Supplies Warehousing since 1944, has resigned to manage the Wisconsin Cooperative Farm Supply Company in Madison, Wis.

Beg Your Pardon . . .

Contrary to an item we recently printed, Joan Royce Liddle did not resign from her post as Associate 4-H Agent in Saratoga County.



"Or perhaps you would prefer the large economy size?"



THERE'S HEAVY WORK in the months ahead!

...and Esso Farm Products help you do it!

From mule-drawn wagons to fuel-powered tractors...these next few months will see farm equipment working long, hard hours...plowing, planting and protecting the bumper crops that America has promised to produce for herself and for the world.

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grease, livestock spray, weed-killer, fuels and lubricants—or any of a dozen other farming aids—there's a specially developed and proved Esso Farm Product to meet that need.

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TIME

PROVES

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Young at Ninety

(Continued from page 12)

of his life to preparation for his vocation, the next twenty-five years to following it, and the rest of his life to doing what interested him most. He has been doing the latter ever since, alternating between a secluded, academic life among the 150,000 dried plants in the Bailey Hortorium at Cornell and trips to China, South America, New Zealand, Mexico, the West and East Indies or wherever the plants currently intriguing his scientific curiosity might happen to grow.

Adventures? He has never thought of his experiences as such. There was a time, to be sure, in Mexico, when he was already over eighty, that he had to make his way for nearly a mile through the tree tops, eight or ten feet above the ground, because it was impossible to get through on the surface; but that to Bailey was simply a necessary experience in the course of getting to a plant he wanted. In Guatemala he penetrated a swamp in a tropical rainstorm, and nearly ruined his camera, as well as his clothes, but he got his plant. That has always been the main thing. At Cornell, one day, he called another professor to ask if he knew where a certain ground nut could be found. The professor knew, but pointed out that it would be hidden

under at least a foot of snow just then. Dr. Bailey went and got it anyway.

When he started on his recent trip, it was just as casual as that. He knew just where he wanted to go to get his palms: how he would get there was incidental.

He didn't worry about food. He has been a light eater for years, ever since middle age, when he was somewhat sickly. Nor did he make any special preparations in the way of getting into physical condition. In fact, he has always resisted all attempts to get him to take any special exercises. If he had somewhere to go or something to do, he would do it, he said, and that was exercise enough.

What is the secret of Liberty Hyde Bailey? Well, if you should look through the hundred or so books he has written—he long ago lost count of the exact number—you will find one volume of verse. It is not, probably, great poetry, as he has many times pointed out. But these four lines, which he wrote in 1907 or 1908, explain his method of staying young:

"Oh carry me out to the bold deep sky,
Oh blow me away through the blue,—
I will snatch the years as they hasten by
And scatter their days as dew."

Lake View Dairies



Cottage Cheese is a Good Food

for Budget Difficulties.

Economical and High in Food Value



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No. 1 SAP

(Continued from page 6)

The boiling point rises very slowly at first, but as the syrup approaches the proper density the boiling point rises very rapidly. Then is the time for tense waiting and quick action. The boiling syrup comes streaming out of the pan, through a felt strainer (to remove the sugar sand) and into a large milk can. As the syrup is drawn out, the solution in each compartment moves up, so that at no time is there a dry pan. Then taste that fresh hot syrup, the nectar of the gods!

Sugaring-off Party

If the sap in the trees continues to run all day, we may find ourselves boiling sap well into the night. Boiling sap in the evening has the makings of a sugaring-off party. The essential feature of such a party is a supply of hot maple syrup to stir until it sugars. Another delicious confection is prepared by pouring hot syrup onto fresh snow. Maple sugar is sold on the market in many forms, as maple cream, soft sugar, and in hard maple sugar candies.

\$\$\$

Maple sugar and syrup are truly luxury products. Syrup currently sells for around five dollars a gallon, and offers to the farmer a financial return unequalled by any other farm operation, with the possible exception of hatchery chicks. A recent cost account survey of twenty producers showed that the average profit from maple syrup was \$2.03 *an hour*. The catch is that one should be tapping at least 500 trees. A smaller profit is possible if 20 to 500 trees are being tapped.

The first run of syrup is usually the best. Warm weather is particularly harmful to maple sap. When it rises above 40°, bacteria begin to grow in the sap, and the sap has to be thrown away. Before another run it is important, for the sake of high quality syrup, to clean out all the buckets, and to clean out the holes in the trees with a reamer. By the time the buds begin to come out on the trees in April, the season is ended.

(Continued on page 18)

Land FOR THE Family

GUSTAFSON, HARDENBURG,
SMITH and McCAY

Newcomers to rural life, just planners, or oldtimers—everyone interested in country living—should own this practical and entertaining guide to the arts of country life. Four experts from Cornell University are its authors, and while they are careful not to mislead the unwary with promises of ease, yet it is plain that they are enthusiastic about the rewards of life on the land for those who are willing to give the necessary time and work.

Particular emphasis is placed on the characteristics of soils and how to distinguish productive from unproductive soils. The book also features garden development, and the varieties and cultural methods of vegetables and fruits, as well as flowers, and includes a discussion of landscaping the home grounds. Individual chapters are devoted to the production of all kinds of poultry, eggs, and also of the family meat and milk supply. Methods of canning and preserving the home-grown food supply are dealt with in the final chapters.

"There is hardly any phase of farm activity and farm home life that is not discussed and presented in a helpful manner."—*Rural New Yorker*.

". . . should be on the desk of every farmer, gardener, and homemaker."—*Horticulture*.

Illustrated with over 200 photographs and diagrams. 505 pp., \$4.00

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Associated with Cornell University Press

ITHACA, NEW YORK

Lesson for after School



Standards for livestock are constantly improving. Breeders are developing better strains of meat animals—new feed and fodder crops are being discovered. These scientific advances are reflected in the prize animals shown at the yearly, great International Live Stock Exposition in Chicago, at similar large expositions in other sections of the United States, and at State and County Fairs throughout the country. Visit these shows frequently while you're still in school. It's part of your education. And keep up the habit after you have left school—for at these shows you will see the patterns for the animals you must raise to keep abreast of the market.

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WHITE LEGHORNS NEW HAMPSHIRE
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GET AT LEAST \$3.00 PER BIRD MORE

You can get over \$3.00 per bird more for chicks that are bred to lay at a high rate on a hen-housed basis as Kauder's are. Here's official proof:

1. In first 14 years of competition for high five pens, Kauder leads all breeders with highest total points.
2. For the ten years 1938-47 since livability counted in scoring, Kauder Leghorns lead their breed for livability with 86.54% on 988 birds.
3. Largest number of 1947 and all-time records at Vineland Hen Test held by Kauder birds over all breeds.

Use breeding like this combined with good management to give yourself better margin over feed and labor costs. Write today for big free catalog with facts galore.

IRVING KAUDER

Box 247

New Paltz, N. Y.

(Continued from page 17)

The producers of northern New York and Vermont have less trouble with fermented sap, but the groves in warmer areas have a higher yield of syrup per bucket, that is, a higher concentration of sugar in the sap. Sap is 97% water and it takes about 43 gallons to produce a gallon of syrup. But when you have the syrup and the sugar you have a treat in store.

Go out into a sugar bush sometime in late winter when the sap is running, and maple syrup is being made in the steaming evaporating pans. Until you do, you have missed an important feature of New York agriculture.

A gentleman farmer is one who raises nothing but his hat.

Every wolf thinks he's entitled to life, liberty and the happiness of pursuit.

TURN YOUR USED BOOKS INTO GOOD COIN !

It pays you to sell the books you will not need again, and you can put the money into other books or supplies.

How much you receive for a book, depends entirely on its salability. If the book is used in the second semester, we pay one-half price for it. If not used again, its value naturally is not as high.

But in any event, turn the books in while they have value and do not wait until the edition is changed and the book becomes worthless.

Secure your textbooks for the second term early and avoid the rush. We will be glad to help you if you know what courses you are going to take.



EVAN J. MORRIS, Prop.

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There is no better way to

CUT FEED COSTS IN 1948

than to apply lime and fertilizer this spring

OVER two-thirds of the feed for Northeastern livestock is home-grown. And most farmers feel that the best way to cut feed costs is to produce more home-grown feed. This year there is no better and cheaper way to cut feed costs than to apply adequate amounts of lime and fertilizer, because lime and fertilizer are perhaps the most economical buys a farmer can make.

The cost of milk production is 150% higher this winter than it was in the winter of 1939-40. Labor and feed costs have increased steadily. However, there is one bright spot in this picture: A ton of milk will buy a lot more lime, superphosphate and fertilizer than it would eight years ago.

One Ton of Milk Would Buy		
	January 1940	January 1948
Lime	7.13 tons	13.6 tons
0-20-20	1.10 tons	2.05 tons
5-10-10	1.26 tons	2.32 tons
Superphosphate	2.15 tons	3.41 tons

The cost of milk production and the price of lime and fertilizers used in calculating the above figures are based on costs in the central New York dairy area. They may vary slightly from one section to another in G.L.F. territory.


GLF

COOPERATIVE G.L.F. EXCHANGE, INC.—The cooperative owned and controlled by the farmers it serves in New York, New Jersey, and northern Pennsylvania—

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If you get the habit of shopping first at the Co-op, you'll save 10% on a lot of things and it's convenient besides.

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Set Your Sights on High Producers

● This is Prince Valiant, a mighty boar weighing 650 pounds when 16 months old. He sold for \$500—not for his fine looks nor his load of loin and bacon, but for his promise as a sire. He has the build and the blood to boost pork production in countless litters of market hogs.

Fast growth by the pig yields higher production per hour of herd care. Fast work in the field is the way for a man to tend more acres, grow more corn, feed more swine, get a higher yield of pork per hour. That's what counts in farming today—*yield per man*.

Better sires and better seeds add to the yield per animal and per acre. Better machines add to the number of acres and animals per man. Case machines are built a bit better than might seem necessary. Hence they hold down the time and cost for upkeep. As you look ahead to your own farming business, look to Case for equipment that will give you extra years from your investment, extra rewards from your acres and your hours. J. I. Case Co., Racine, Wis.

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Fast work in heavy crops of hybrid corn is the purpose for which Case pickers are built. The one-row size, as here, fits the power and speed of two-plow tractors, suits the conditions of medium to small fields. The two-row size, by applying the power of larger tractors, harvests about twice as many acres per hour. Both sizes unhitch quickly to free the tractor for other work. Both sizes have a powerful blast fan to blow out loose leaves, silks, smut, etc. Corn goes to the crib cleaner, cures quicker.

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As the engineer designs and lays a good foundation before building, so too, progressive farmers carefully prepare the soil on which will be built the economy of tomorrow . . . and the many tomorrows that will follow. Farmers know that a craftsman is no better than his tools . . . that's why more and more farmers are buying MM Modern Machines, Tractors and Power Units to utilize more fully the modern methods of agriculture for increasing production and conserving the fertility of the soil for posterity.

Engineered into every product that bears the MM trade-mark, is the *dependability, utility and all around economy* that farmer-businessmen know they can rely upon when they purchase *quality* MM Modern Machines, Tractors and Power Units . . . That's why they are willing to wait longer and get more when they get MM!



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